

In the claims:

Amendments to the claims

1. (Currently amended) A process for the production of alcohols, comprising:

(a) subjecting an olefin to a hydration reaction with water to form a reaction product including the corresponding alcohol, the olefin having a carbon chain of 2 to 12 carbon atoms, the carbon chain being selected from a linear chain and a branched chain, the reaction being conducted in the presence of a solid state olefin hydration catalyst, the catalyst is a silicate, having a highly regular crystallographic structure characterized by a large surface area, and interconnected cavities within the regular structure, the temperature and pressure of the hydration reaction being selected so that the olefin is largely in a vapour phase and the alcohol is in the liquid phase, the olefin being in a molar excess when compared with water;

(b) recovering a product stream containing alcohol and volatile components from step (a) and subjecting the product stream to heating and returning the volatile components to step (a) for further processing; and

(c) simultaneously recovering the alcohol as a substantially anhydrous liquid.

2. (Original) A process according to Claim 1, wherein the catalyst has hydrophobic properties.

3. (Original) A process according to Claim 2, wherein the reaction in step (a) is effected by catalytic distillation.

4. (Original) A process according to Claim 1, wherein step (a) is effected at a pressure of 0.1 to 4 MPa.

5. (Original) A process according to Claim 4, wherein step (a) is effected in a temperature range of 50-225 °C.
6. (Previously amended) A process according to Claim 5, wherein water is fed to the process at a feed ratio of water to olefin is in the range of 1:3 to 1:5.
7. (Original) A process according to Claim 6, wherein the pressure is about 2 kPA.
8. (Original) A process according to Claim 7, wherein the olefin has a carbon chain of 2-4 carbon atoms.
9. Cancelled
10. (Original) A process according to Claim 8, wherein the olefin is propene, and the corresponding alcohol is isopropanol.
11. (Original) A process according to Claim 8, wherein the olefin is isobutene, and the corresponding alcohol is tertiary butanol.
12. (Original) A process for the production of alcohols, comprising
 - (a) subjecting an olefin to a hydration reaction with water to form a reaction product including the corresponding alcohol, the olefin having a carbon chain of 2 to 12 carbon atoms, the carbon chain being selected from a linear chain and a branched chain and a chain having a cyclic hydrocarbon component, the reaction being conducted by catalytic distillation in a distillation column in the presence of a solid phase hydrophobic olefin hydration catalyst, the catalyst being disposed within the column in two separate spaced apart catalytic beds, the temperature and pressure of the hydration reaction being selected so that the olefin is largely in a vapour phase and the alcohol is in the liquid phase, the olefin being in a molar excess when compared with water, the olefin and water being continuously fed to the column ; and

(a) simultaneously and continuously recovering the alcohol as a substantially anhydrous liquid.

13. (Original) A process according to Claim 12, wherein step (a) is effected at a pressure of 0.1-4 MPa, and a temperature in the range of 50—225 °C.

14.- 29 (Cancelled)

30. (Previously added) A process for the production of alcohols, comprising:

(a) subjecting an olefin to a hydration reaction with water to form a reaction product including the corresponding alcohol, the olefin having a carbon chain of 2 to 12 carbon atoms, the carbon chain being selected from a linear chain and a branched chain, the reaction being conducted in the presence of a solid state olefin hydration catalyst having hydrophobic properties, the temperature and pressure of the hydration reaction being selected so that the olefin is largely in a vapour phase and the alcohol is in the liquid phase, the olefin being in a molar excess when compared with water; and

(b) simultaneously recovering the alcohol as a substantially anhydrous liquid.

31. (Previously added) A process according to Claim 30, wherein the reaction in step (a) is effected by catalytic distillation.

32. (Previously added) A process according to Claim 30, wherein step (a) is effected at a pressure of 0.1 to 4 MPa.

33. (Previously added) A process according to Claim 32, wherein step (a) is effected in a temperature range of 50-225 °C.

34. (Previously added) A process according to Claim 33, wherein water is fed to the process at a feed ratio of water to olefin is in the range of 1:3 to 1:5.
35. (Previously added) A process according to Claim 34, wherein the pressure is about 2 kPA.
36. (Previously added) A process according to Claim 35, wherein the olefin has a carbon chain of 2-4 carbon atoms.
37. (Previously added) A process according to Claim 36, wherein the catalyst is a silicate, having a highly regular crystallographic structure characterized by a large surface area, and interconnected cavities within the regular structure.
38. (Previously added) A process according to Claim 36, wherein the olefin is propene, and the corresponding alcohol is isopropanol.
39. (Previously added) A process according to Claim 36, wherein the olefin is isobutene, and the corresponding alcohol is tertiary butanol.